

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/006791

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C25B11/02 C25B11/03

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C25B C02K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)  
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 534 122 A (TRAINI CARLO ET AL) 9 July 1996 (1996-07-09) cited in the application figure 4; example 3 column 4, line 50 - column 5, line 12 ----- US 4 695 355 A (KOZIOL KONRAD) 22 September 1987 (1987-09-22) column 3, line 23 - column 4, line 40 figure 1 -----	1,2,8, 10-15, 17-20
Y	US 4 617 101 A (SATO KIMIHIKO ET AL) 14 October 1986 (1986-10-14) column 2, line 34 - line 45 column 4, line 16 - line 20 figure 1 -----	1,2,8, 10-15, 17-20
A	----- -/-	1

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

5 October 2004

Date of mailing of the international search report

14/10/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Desbois, V

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/006791

C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 469 577 A (SCHMITT HELMUT ET AL) 4 September 1984 (1984-09-04) figure 3	5-7
A	US 3 674 676 A (FOGELMAN EDWARD I) 4 July 1972 (1972-07-04) column 2, line 65, paragraph 28 – line 72 column 4, line 50 – column 5, line 12	1
A	EP 0 203 224 A (HERAEUS ELEKTRODEN) 3 December 1986 (1986-12-03) figure 1a	3,4
A	EP 1 038 993 A (KOBE STEEL LTD ; SHINKO PLANT CONSTRUCTION CO L (JP)) 27 September 2000 (2000-09-27) paragraph '0028!; figures 3,4	1,5-7

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2004/006791

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 21 because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.2

Claims Nos.: 21

Claim 21 could not be searched due to its lack of clarity. Claims 21 refers exclusively to the drawings. This makes the claim 21 unclear, by rendering it difficult to determine what the exact scope of protection of this claim is.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

**INTERNATIONAL SEARCH REPORT**

International Application No  
PCT/EP2004/006791

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5534122	A 09-07-1996	IT 1263900 B AT 171484 T BG 61848 B1 BG 98451 A BR 9400553 A CA 2114756 A1 CN 1090891 A , B DE 69413431 D1 DE 69413431 T2 EP 0611836 A1 JP 6340990 A NO 940460 A PL 302212 A1 RU 2136784 C1 ZA 9400913 A	05-09-1996 15-10-1998 31-07-1998 31-05-1995 23-08-1994 13-08-1994 17-08-1994 29-10-1998 17-06-1999 24-08-1994 13-12-1994 15-08-1994 22-08-1994 10-09-1999 22-08-1994
US 4695355	A 22-09-1987	DE 3519573 A1 AT 45395 T CA 1291444 C DE 3664933 D1 EP 0204126 A1 HU 45101 A2 NO 862167 A	04-12-1986 15-08-1989 29-10-1991 14-09-1989 10-12-1986 30-05-1988 01-12-1986
US 4617101	A 14-10-1986	JP 1395259 C JP 57085981 A JP 62003236 B JP 1400605 C JP 57085982 A JP 62009192 B AU 543510 B2 AU 7706881 A BR 8107387 A CA 1203506 A1 DE 3176449 D1 EP 0052332 A1 ES 8206665 A1 FI 813481 A , B, IN 155085 A1 KR 8801583 B1 MX 156222 A ZA 8107805 A JP 1597306 C JP 2020713 B JP 62124288 A	11-08-1987 28-05-1982 23-01-1987 28-09-1987 28-05-1982 26-02-1987 26-04-1985 27-05-1982 10-08-1982 22-04-1986 22-10-1987 26-05-1982 16-11-1982 16-05-1982 29-12-1984 24-08-1988 26-07-1988 27-10-1982 28-01-1991 10-05-1990 05-06-1987
US 4469577	A 04-09-1984	DE 3219704 A1 CA 1204408 A1 DE 3378769 D1 EP 0095039 A2 IN 159130 A1 JP 1926313 C JP 6057874 B JP 58213886 A	01-12-1983 13-05-1986 02-02-1989 30-11-1983 28-03-1987 25-04-1995 03-08-1994 12-12-1983
US 3674676	A 04-07-1972	CA 932698 A1 DE 2109091 A1 FR 2080780 A5	28-08-1973 09-09-1971 19-11-1971

**INTERNATIONAL SEARCH REPORT**

International Application No  
PCT/EP2004/006791

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 3674676	A		GB 1326673 A JP 50035031 B NL 7102537 A ,B	15-08-1973 13-11-1975 30-08-1971
EP 0203224	A	03-12-1986	DE 3519272 C1 AT 41955 T DD 243299 A5 DE 3569267 D1 EP 0203224 A1 JP 61279063 A	18-12-1986 15-04-1989 25-02-1987 11-05-1989 03-12-1986 09-12-1986
EP 1038993	A	27-09-2000	JP 11172482 A AU 1505299 A EP 1038993 A1 JP 3363911 B2 US 6391183 B1 WO 9929929 A1	29-06-1999 28-06-1999 27-09-2000 08-01-2003 21-05-2002 17-06-1999